

ABSTRACT OF THE DISCLOSURE

This invention provides an electron source manufacturing apparatus and manufacturing method which facilitate downsizing and operation and are suitable for mass production. The electron source manufacturing apparatus includes a support which supports a substrate having conductors formed on it and has a means for adjusting the temperature of the substrate, a vessel which has a gas inlet port and gas exhaust port and covers a partial region on the surface of the substrate, an unit for introducing and exhausting gas into and from the vessel, and an unit for applying a voltage to the conductors. The support has a groove.

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